Aviation Medicine Orientation
U3000602 / Version 1
14 Dec 2004

SECTION I. ADMINISTRATIVE DATA

All Courses Including This Lesson

Course Number	Version	Course Title
300-F6	2005	Flight Medic
6H-F27	04D	AEROMEDICAL PSYCHOLOGY TRAINING

Task(s) Taught(*) or Supported

Task Number	Task Title
	INDIVIDUAL
081-CF9-0004 (*)	COMPLY WITH MEDICAL REQUIREMENTS FOR AVIATION

Reinforced Task(s)

Task Number	Task Title

Academic Hours

The academic hours required to teach this lesson are as follows:

	Resident Hours/Methods
	1 hr / Conference / Discussion
Test	0 hrs
Test Review	0 hrs
Total Hours:	1 hr

Test Lesson Number

	Hours	Lesson No.
Testing (to include test review)	1 hr 15 mins	U3004503 version 1
	1 hr 15 mins	UEA01602 version 1

Prerequisite Lesson(s)

Lesson Number	Lesson Title
None	

Clearance Access

Security Level: Unclassified
Requirements: There are no clearance or access requirements for the lesson.

Foreign Disclosure Restrictions

FD5. This product/publication has been reviewed by the product developers in coordination with the USASAM foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

References

Number	Title	Date	Additional Information
AR 40-3	Medical, Dental, and Veterinary Care	12 Nov 2002	
AR 40-501	Standards of Medical Fitness	01 Feb 2005	
AR 40-8	Temporary Flying Restrictions Due to Exogenous Factors	17 Aug 1976	
AR 600-105	Aviation Service for Rated Officers	15 Dec 1994	
AR 600-106	Flying Status for Nonrated Army Aviation Personnel	08 Dec 1998	
FM 3-04.300	Flight Operations Procedures	26 Apr 2004	
USASAM 1	Aeromedical Policy Letters and Technical Bulletins (Located on USASAM WEB page)		

Student Study Assignments

Student should ensure they understand each day from the class schedule which lessons will be taught and read and study the material thoroughly for the examination.

Instructor Requirements

One 65DM3 instructor or 61N instructor.

Additional Support Personnel Requirements

Name	Stu Ratio	Qty	Man Hours
None			

Equipment Required for Instruction

Id Name	Stu Ratio	Instr Ratio	Spt	Qty	Exp
COMPU-PR0J OVERHEAD PROJECTOR W/ COMPUTER INTERFACE	1:50	1:1	No	0	No
COMPUTER-INSTRUCTOR COMPUTER (CPU) WITH KEYBOARD, INSTRUCTOR USE ONLY	1:50	1:1	No	0	No
MONITOR-INSTRUCTOR COMPUTER MONITOR, INSTRUCTOR USE ONLY	1:50	1:1	No	0	No
SCREEN-INSTRUCTOR SCREEN PROJECTOR, INSTRUCTOR USE	1:50	1:1	No	0	No

* Before Id indicates a TADSS

Materials

Instructor Materials:
PowerPoint Capable Computer with Projection device

Required

Media: Digital Slides
Aviation Medicine Orientation Lesson Plan

Student Materials:
Aviation Medicine Orientation Student Handout.

Classroom, Training Area, and Range Requirements

Ammunition Requirements

Id	Name	Exp	Stu Ratio	Instr Ratio	Spt Qty
None					

Instructional Guidance

NOTE: Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material.

Proponent Lesson Plan Approvals

Name	Rank	Position	Date
Bost-Pittman, Carolyn	DAC	USASAM, ISS	28 Apr 2004
Campbell, John	LTC	Dean, USASAM	09 Dec 2004
Schwab, Douglas	SFC	FLIGHT PYS	06 Dec 2004

SECTION II. INTRODUCTION

Method of Instruction: Conference / Discussion
Instructor to Student Ratio is: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

Motivator

The histories of US Army Aviation Medicine and US Army Aviation are closely intertwined. The growing technologies of early aviation created the need to select the fit men as flyers, and aviation medicine was born. While flying machines have evolved wondrously over the past 100 years, the aviator (both men and women) has remained relatively constant. Modern aircraft challenge the aircraft operator in new ways -- the combat aviator of today must be a time-sharing systems manager, as well as a traditional 'great stick.' The mission of aviation medicine -- to select and maintain the best and brightest pilots -- has never been more challenging than it is today.

Terminal Learning Objective

NOTE: Inform the students of the following Terminal Learning Objective requirements.

At the completion of this lesson, you [the student] will:

Action:	Participate in Aviation Medicine Program
Conditions:	While serving as an aircrew member.
Standards:	In accordance with (IAW) AR 40-501, AR 40-8, AR 600-105, AR 600-106, and Aeromedical Policy Letters, Aeromedical Technical Bulletins.

Safety Requirements

None.

Risk Assessment Level

Low

Environmental Considerations

NOTE: It is the responsibility of all soldiers and DA civilians to protect the environment from damage.
None.

Evaluation

This block of instruction along with other aeromedical subjects will be evaluated with a closed book examination.

Instructional Lead-In

As an aviator and air crewmember you must have an understanding of Aviation Medicine, the requirements for maintaining flight status medical standards, and adhering to AR 40-8. Failure in this may identify you as an aviation safety risk, disqualify you from aviation duty, and result in a Flying Evaluation Board.

SECTION III. PRESENTATION

NOTE: Inform the students of the Enabling Learning Objective requirements.

1. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the organizations that provide a valuable service to maintaining aviation medical standards.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	IAW AR 40-501, US Army Safety Center and US Army Aeromedical Research Laboratory mission statements.

1. Learning Step / Activity 1. Provide instruction the organizations that provide a valuable service to maintaining aviation medical standards.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

a. US Army Aeromedical Activity (AAMA):

(1) Review and recommends disposition of flying duty medical examinations and medical waivers for continued flying duty.

(2) Maintains the Aviation Epidemiology Data Register (AEDR) to support research and clinical studies for aircrew medical standards and policy

b. US Army Safety Center:

(1) Accident investigations all class "A" and select class "B" both ground and air.

(2) Conduct safety training

(3) Write safety policies for the Army.

c. US Army Aeromedical Research Laboratory (USAARL):

(1) Conduct research in the effects of exogenous aeromedical factors in the aviation environment.

(2) Conduct research and development in aviation life support.

d. US Army School of Aviation Medicine (USASAM):

(1) Conducts training for all rated and nonrated crewmembers on all aeromedical subjects and provides training for health care providers supporting the aviation community.

(2) Conduct Aviation Resource Management Surveys. This is an assistance inspection which inspects a unit in twelve functional areas. These areas include; operations, standardization, supply, maintenance, safety, POL, ALSE, aviation medicine, Air Traffic Services (ATS), training, NVD, and TACOPS. It ensures regulatory compliance for all aviation medicine activities.

(3) Sustain the Aviation and Special Forces (SOF) with training in Hypobaric (Altitude) chambers.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

2. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the Aviation Medicine Health Care Team.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	In accordance with (IAW) AR 40-501, AR 600-105, and AR 600-106.

1. Learning Step / Activity 1. Provide instruction on the Aviation Medicine Health Care Team.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

a. Flight Surgeon (FS):

(1) Physicians specifically trained in aviation medicine. Attend the Army Flight Surgeon Primary Course (AFSPC).

(2) After graduation, they are assigned to an operational billet. After a tour as a unit flight surgeon, they can apply to attend the Residency in Aerospace Medicine (RAM) Program. This program is a 2-3 year course designed to increase the clinical and administrative capability of the flight surgeon. Upon graduation they become board certified as an Aerospace Medicine Specialist.

(3) Physicians are considered to be rated crewmembers.

b. Aeromedical Physician Assistants (APA):

(1) Physician Assistants (PA) specifically trained in aviation medicine. Attend the Army Flight Surgeon Primary Course. Duties are performed under the guidance of a flight surgeon.

(2) Aeromedical physician assistants (APA) are considered non-rated, non-crewmembers.

c. Aeromedical Psychologist:

(1) Psychologist specifically trained in clinical psychology. Attend the Army's Aeromedical Clinical Psychology Course, which enables them to deal with the psychological problems encountered in the aviation environment. They work with the flight surgeon and aeromedical physician assistants.

(2) Considered non-rated, non-crewmembers.

d. Health Care Team Duties and Responsibilities:

(1) Flight Surgeon and Aeromedical Physician Assistants:

(a) Clinical medicine and Operational Preventive Medicine: Promote aviation safety and prevent illness and injury of aviation and aviation support personnel.

(b) Unit Readiness: Enhance unit deployability posture by ensuring a high state of medical readiness (immunizations, dental and optometric readiness, field medical training, etc.).

(c) Staff Function: One of the commander's special staff officers. Ensuring the commander is kept abreast of all medical issues that affect the operation of the unit and the readiness of the aircrew members. This includes Command Safety Council meetings, ALSE inspections, Flight Line Inspection, Accident Investigations etc.

(d) Clinical Support: Provides medical support to the local hospital/clinic. Primary care provider to soldiers in aviation and aviation related units.

(2) Aeromedical Psychologist

(a) Clinical consultation and support to flight surgeons and commanders regarding the assessment, treatment, readiness, and retention of aviation personnel.

(b) Consultation to commanders, unit safety officers, and accident investigation and flight evaluation boards on psychological and human factors affecting performance and aviation safety.

(c) Education and training to aviation personnel on human factors, stress and fatigue, and other safety issues related to the psychological status of individual aviators.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

3. ENABLING LEARNING OBJECTIVE

ACTION:	Determine the primary goal of the Aviation Medicine Program.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	IAW AR 40-501, AR 600-105, and AR 600-106.

1. Learning Step / Activity 1. Provide instruction on the the primary goal of the Aviation Medicine Program.

Method of Instruction:	Conference / Discussion
Instructor to Student Ratio:	1:50
Time of Instruction:	5 mins
Media:	Large Group Instruction

a. Program Concept. Designed to promote and maintain the aviation fighting force through health promotion and sustainment of the mental and physical well-being of aviation personnel.

b. Primary Goal. The traditional core of the Aviation Medicine Program is the delivery of clinical and operational preventive medicine services. Of these preventive medicine is the primary goal.

(1) Army aviation operations require the highest quality of medical support in the form of a multispecialty and multidisciplinary Aviation Medicine Program. The program is continuously and readily available for aviation units, detachments, and aviation activities through out the army.

(2) The reason for this includes maintaining operational readiness of aviation combat and combat support, the high dollar value of aviation personnel and equipment, the long lead time and high cost of replacing aircrew members and assets lost due to human factor mishaps, injury and chronic disease, and the cost of decreased operational capability due to medical preventable illnesses in the aircrew member.

c. Three Echelons of Preventive Medicine

(1) Primary Echelon (Prevention/Pre-disease):

(a) Health Education Program: Program managed by the FS and/or APA for the aviation community. Consists of health education topics presented during unit meeting, professional development, safety meeting, mission briefing, and physiological training classes.

(b) Environmental Education Program: Through inspection and participation, FS’s and/or APA's are made aware of the environmental conditions and hazards faced by the aircrew member that reduces their effectiveness as a result of disease or injury. FS’s and/or APA's ensure that aircrew members are protected from environmental factors and that safety precautions are in effect.

(2) Secondary Echelon (Intervention/Latent Disease):

(a) FS's/APA's intervene in the disease processes that affect flight safety and aviation mission completion. This is conducted through clinical or social settings, observation on the flight line, and during annual flying duty medical examination (FDME).

(b) Examples of disease amenable to secondary prevention include alcoholism, hearing loss, hypertension, and malignancies of the testicle, prostate, breast, colon, and skin.

(3) Tertiary Echelon (Rehabilitation/Referral):

(a) The FS/APA ensures the appropriate coordination of medical and ancillary care in the rehabilitation of grounded crewmembers following severe injury or illness.

(b) The goal is to limit disability and return the aircrew member to flying duty or duty in support of aviation service as soon as possible.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

4. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the standards for comprehensive Flying Duty Medical Examination (FDME) to include the Flying Duty Health Screen (FDHS) that is given to an aviator/air crewmember.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	In accordance with (IAW) AR 40-501, AR 600-105, AR 600-106, and Aeromedical Technical Bulletins.

1. Learning Step / Activity 1. Provide instruction on the standards for a comprehensive Flying Duty Medical Examination (FDME) to include the Flying Duty Health Screen (FDHS) that is given to an aviator/aircrewmember.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

a. Flying Duty Medical Examination (FDME):

(1) The FDME is a periodic screening medical examination performed for occupational and preventive medicine purposes. The FDME is used as a starting point for the careful evaluation and treatment of aircrew members.

(2) It promotes and preserves the fitness, deployability, and safety of aviation personnel.

(3) Two Broad Categories of FDME:

(a) Initial FDME: Performed for accession purposes. They are valid for up to 18 months from the date of the examination.

(b) Comprehensive FMDE: Performed on aircrew once already trained. This is a retention-type of FDME and is performed for re-certification purposes every 5 years between the ages of 20 and 50 and then annually thereafter. The five year period is based on the year of the initial FDME or the date of the last comprehensive FDME. It is generally valid for 12 months and is synchronized with the aircrew member's birth month.

b. Flying Duty Health Screen (FDHS)

(1) The FDHS is the interim health screening tool done between comprehensive FDME's.

(2) The goal is to ensure maintenance of aircrew health and fitness for aviation duty and serve as an opportunity for health promotion.

(3) Performed on aircrew already trained and is generally valid for 12 months and is synchronized with the aircrew member's birth month.

c. Classes of FDME:

(1) Class 1W/1A:

(a) Initial entrance physical examination for warrant officer (1W) candidates and commissioned officers (1A) that want to be pilots.

(b) Valid for up to 18 months from date of examination.

(2) Class 2:

(a) Accession standards for FS, APA, and trained aviators. Flight students status changes from class 1 to class 2 at the start of the initial flight training course leading to award of an aeronautical rating and in that course of instruction once training is started at aircraft controls. Rated aviators must maintain Class 2 standards when not assigned to an operational flying duty position.

(b) Must take examination within a three-month period preceding the end of the birth month. All exams taken within this period are considered to have been taken within the birth month and will be good to the end of the birth month of the following year. Requirement for FDME will not be suspended in the event of unit training exercise or military mobilization unless approved by the Surgeon general.

(3) Class 3:

(a) Crewmembers, non-crewmembers and other personnel required by competent authority to fly in Army aircraft. (i.e.: Flight Medics, crew chiefs, flight engineers, Aeromedical Psychologist, etc.)

(b) Must take examination within a three-month period preceding the end of the birth month. All exams taken within this period are considered to have been taken within the birth month and will be good to the end of the birth month of the following year.

(4) Class 4:

(a) Air traffic controllers, both military and civilian. Although, civilian personnel's FDME is performed on a civilian form.

(b) Must take examination within a three-month period preceding the end of the birth month. All exams taken within this period will have been considered to have been taken within the birth month and will be good to the end of the birth month of the following year.

d. Different part's of the FDME/FDHS

(1) Part 1. Consists of compiling all the information/data that the FS/APA will need. Generally covers personal information, medical history, vital signs, vision, and labs, audiology, and ECG if needed.

(2) Part 2. This is the "hands-on" part. Part 1 is reviewed by the FS/APA. After part 2 is complete of the FDME/FDHS the packet is ready for aeromedical disposition.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

5. ENABLING LEARNING OBJECTIVE

ACTION:	Identify the components of DA Form 4186.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	In accordance with (IAW) AR 40-501, AR 600-105, AR 600-106, and FM 1-300.

1. Learning Step / Activity 1. Provide instruction on the components of DA Form 4186.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

a. DA Form 4186, Medical Recommendation for Flying Duty: An official document used to notify the aviation commander of the initial recommendation for certification of medical fitness for all classes of military and civilian aviation personnel.

(1) Section A: Circumstances when a medical qualification is recommended. See attached DA Form 4186 sample.

(2) Section B: Circumstances when a medical disqualification is recommended. See attached DA Form 4186 sample.

(3) Remarks: Full Flight Duty (FFD) or Duties Not to Include Flying (DNIF) is the usual entries in this block. Is not used to explain specific medical condition or violate the patient privacy act.

(4) Section C: Certification by air crewmember--this verifies notification and understanding of flight surgeon's recommendation by the aircrew member. Any physician or health care provider may sign a DA Form 4186 recommending restrictions for aircrew members and air traffic controllers when an aeromedical problem exists. Recommendation for return to flying duty can only be recommended by a Flight Surgeon. An APA can return aircrew members to full flying duty upon receiving a verbal order from a flight surgeon and a counter signature on the DA Form 4186.

(5) Section D: Action by the commander--may agree or disagree. The commander is the final approval authority.

(6) Copies sent to:

(a) Original - Health records.

(b) Copy 2 - Aviation unit commander signs this copy and then it goes in the individual flight record (IFR).

(c) Copy 3 - US Army Aeromedical Activity (AAMA) -- not used.

(d) Copy 4 - Aircrew member's copy.

b. Who are required to maintain a DA Form 4186?

(1) All military and civilian personnel.

(2) Required for those who must maintain class 1-4 medical standards.

(3) Aviators in an operational position.

(4) Aviators in "simulator duty only" positions.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

6. ENABLING LEARNING OBJECTIVE

ACTION:	Determine the difference between a temporary and permanent aeromedical disqualification.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	In accordance with (IAW) AR 40-501 and Aeromedical Policy Letters.

1. Learning Step / Activity 1. Provide instruction on the effect of exogenous factors on the aircrew member.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

a. Aeromedical Disqualification (Unfitness for Flying Duty):

(1) Temporary Disqualification: Imposed by the FS/APA for a temporary aeromedical disqualifying condition, that are minor, self-limited, and likely to result in requalification within 365 days. When condition resolves, the FS/APA recommends return to flying duty with DA Form 4186 (up-slip). Examples include ankle sprain, acute rhinitis, gastroenteritis, and simple closed fractures.

(2) Permanent Disqualification: Imposed when a aeromedical condition is not likely to result in requalification within 365 days. The FS/APA performs a thorough medical evaluation of the condition and submits his/her recommended disposition to the Army Aeromedical Activity (AAMA). This request can either be for a waiver and continued flight status, or for permanent disqualification and removal from flight status. Examples include diabetes, heart attack, or HIV sero-positivity, hypertension, seasonal allergic rhinitis, complicated pregnancy.

(3) Aircrew responsibilities: Aircrew members will report the following to the supporting flight surgeon:

(a) Symptoms indicating a change in health.

(b) Illness requiring the use of medications or visit to a health care provider for evaluation, care, hospitalization or quarters.

(c) Drug or alcohol use that result in legal problems, psychological dysfunction, medical, or psychological incapacitation.

(d) Current or request for an aeromedical waiver.

(e) HIV seropositivity.

b. Waiver Authority:

(1) Class 1A/1W: A document from Human resources Command (HRC) or the NGB, which grants continued flight status in spite of disqualifying defect. Waivers are not granted for Class 1W or 1A standards, exception to policy may be considered.

(2) Class II/IV: HRC or the NGB is the waiver granting authority for military class II and IV FDME. DAC waiver approval for civilians is different and will not be covered.

(3) Class III: Waivers may be granted locally by the aviation commander with the recommendation of the flight surgeon for most disqualifying medical conditions. Conditions involving alcohol/drug abuse or dependence will be forwarded to US Army Aeromedical Activity, Ft. Rucker, AL. and then to HRC or NGB.

c. Waiver Criteria: To be considered waiverable, any disqualifying physical or psychological defect must pass the following screening criteria:

(1) Not suddenly disabling/incapacitating.

(2) Not pose any potential risk for subtle incapacitation that might not be detected by the individual but would affect alertness, special senses, or information processing.

(3) Must be resolved or stable at time of the waiver (i.e. non-progressing).

(4) Must not be subject to aggravation by military service or continued flying duty.

(5) Must not lead to significant loss of duty such as precludes unsatisfactory completion of training and/or military service.

(6) Cannot require the use of uncommonly available tests, regular invasive procedures, or non-routine medication especially during deployment or assignment to austere areas.

(7) If the possibility of progression or recurrence exists, the first signs or symptoms must be easily detectable and cannot constitute and undue hazard to the individual or to others.

(8) It cannot jeopardize the successful completion of a mission.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

7. ENABLING LEARNING OBJECTIVE

ACTION:	Determine the timeframe an aircrewmember must not fly after exogenous factors.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	In accordance with (IAW)AR 40-8.

1. Learning Step / Activity 1. Provide instruction on the timeframe an aircrewmember must not fly after exogenous factors.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

a. AR 40-8 (Temporary Restrictions Due to Exogenous Factors):

(1) AR 40-8 applies to all personnel on flight duty status.

(2) Exogenous Factors – Aircrew members receiving any substance or procedure likely to provoke an adverse systemic reaction shall be restricted from flying duties until declared fit by a FS/APA.

(3) Although aircrew members are not doctors, they play a part in the decision of whether or not they should fly. Most of the time aircrew members know whether they can fly safely or should be grounded before they even see the flight surgeon. Aircrew members are personally responsible to promptly report any treatment by a non-flight Surgeon/APA or report any condition that may be cause for disqualification from flying.

b. Exogenous Factors:

(1) Administration of Drugs: Aircrew members taking drugs which have a systemic effect will be restricted from flying duty until convalescence and or rehabilitation is completed. All drugs and medications will be dispensed by or with the knowledge of a flight surgeon.

(a) Alcohol – 12 hours after the last drink consumed and until no residual effects remain.

(b) Antihistamines or barbiturates – for period taken and for 24 hours after discontinued or after any sequelae, whichever is longer.

(c) Mood ameliorating, tranquilizing, or ataxic drugs – for a period they are used and for 4 weeks after the drug has been discontinued. When medications are utilized for nonpsychotropic reasons, such as for symptomatic relief of vomiting or muscle spasm, the period of disability will last only for the duration of the acute illness and for 72 hours after cessation of medication.

(2) Immunization: Medical restriction will be for a minimum of 12 hours and for duration of any systemic side effects or local reaction.

(3) Blood Donations: Aircrew members will not be regular blood donors. Following blood donation (200cc or more), aircrew member will be restricted from flying duty for a period of 72 hours.

(4) Decompression Experience: Those engaged in low-pressure altitude chamber flights, regardless of altitude reached will be restricted from heavy exercise, flying, or prolonged duty for 12 hours following flight.

(5) Diving: The incidence of decompression sickness during flight is considerably increased after exposure to any environment above atmosphere pressure, such as scuba diving. Aircrew members will not fly or perform low-pressure chamber “runs” within 24 hours following SCUBA diving or compressed air dives or high pressure runs.

(6) Tobacco Smoking: Aircrew members are discouraged from smoking tobacco at all times. They should especially refrain from smoking before flights at night and during all flights.

(a) Smoking Cessation Aids:

1. Patches/Gum: DNIF for initial 72 hours. Once 72 hours has passed with no evidence of significant side effects and the patient has successfully abstained from smoking, the aviator may return full flying duties. Nicotine gum cannot be used while flying. Nicotine patches may be worn when flying; however, it is advisable to fly with another fully qualified , rated aviator. Total abstinence from smoking is required when using nicotine gum/patches. One episode of smoking voids the contract made with the flight surgeon and the aviator must be considered to be medically restricted until cleared by the flight surgeon.

2. Zyban: Is an anti-depressant with a side benefit of decreasing urge to smoke. Its usage requires DNIF for at least the initial 2 weeks of therapy. At the end of the two week grounding period, the flight surgeon must determine if the individual can resume flight duties and a temporary upslip can be issued.

(7) Strenuous Sporting Activities: The fitness of aircrew members should be considered following participation in strenuous sporting activities.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

8. ENABLING LEARNING OBJECTIVE

ACTION:	Determine the herbal/dietary supplements that are allowed without prior approval of a FS/APA.
CONDITIONS:	While serving as an aircrew member.
STANDARDS:	Aeromedical Policy Letters.

1. Learning Step / Activity 1. Provide instruction on different classes of medications and herbal/dietary supplements.

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

a. Medications: Generally self-medication by anyone on flight status is prohibited IAW AR 40-8. Medications are designated as Class 1, 2A, 2B, 3, and 4.

(1) Class 1 Medications: Over the counter medications, which may be used without a waiver. Occasional and infrequent use of these over the counter medications does not pose a risk to aviation safety or violate the intent of AR 40-8 when a flight surgeon or APA is not available. The intent is "*only take the medication if the FS/APA is not readily available or with the knowledge of the FS/APA*." These are approved for acute non-disqualifying conditions and do not require a waiver. Use IAW standard prescribing practice.

- **Antacids:** (Tums, Rolaids, Mylanta, Maalox, Gaviscon)
- **Artificial Tears:** Saline or other lubricating solution only. Visine or other vasoconstrictor agents are prohibited.
- **Aspirin/Acetaminophen:** When used infrequently or in low dosage.
- **Cough Syrup or Cough Logenzes:** Gauifenesin. Many OTC cough syrups have antihistamines or Dextromethorphan (DM) and are prohibited.
- **Decongestant:** Pseudophedrine (Sudafed). When used for mild nasal decongestion and can clear ears (valsalva).
- **Pepto Bismol:** If used for minor diarrhea conditions and free of side effects for 24 hours.
- **Multiple Vitamins:** When used in normal supplemental doses. Mega-dose prescriptions or individual vitamin preparation are prohibited.
- **Nasal Sprays:** Saline nasal sprays are acceptable without restriction. Neosynephrine and oxymetazoline (Afrin) are restricted to no more than 3 days.

- **Psyllium Mucilloid (Metamucil):** When used to treat occasional constipation or as a fiber source for dietary reasons. Long term use greater than 1 week must be coordinated with the FS/APA.
- **Throat Lozenges:** Acceptable provided the lozenge contains no prohibited medication. Benzocaine (or similar analgesic) containing throat spray or lozenge is acceptable. Long term used greater than 3 days must be approved by the local FS/APA.

(2) Class 2A: These medications require a prescription and may be used for a short term under the supervision of a flight surgeon/APA without a waiver. The underlying medical condition requiring use of the medication may be disqualifying and require a waiver.

(a) Predeployment rest or sustained operations agents.

1. Continuous and sustained operations are based on the premise that the enemy's systems can be fatigued to failure faster than friendly systems. The FS/APA's role is as advisor to the commander in developing and monitoring unit crew rest policy (AR 385-95) in accordance with published policy.

2. The administration of rest agents to assist in circadian cycling and ensure adequate sleep or stimulant agents for continued mission execution in sustained operations is an additional measure to consider managing fatigue and maintaining aircrew performance after non-pharmacological measures have been considered and deemed inadequate.

3. No waiver is required. Use must be on short-term basis.

4. Stimulant or rest agents should be only in combat or during exceptional ("fly or die") circumstances of operational necessity.

5. Use of these agents and medication accountability must be under the direct supervision of the FS/APA and must be authorized by the local commander.

(3) Class 2B: These medications require a prescription and may be used for short term or chronic use under the supervision of flight surgeon/APA. The underlying medical condition may require a waiver. The use must be noted on the FDME for Information Only. First time use requires 24 hour grounding to ensure there are no significant side effects.

(4) Class 3: These medications require a prescription and may receive favorable waiver recommendation only on an individual basis for treatment or control of certain chronic conditions. The underlying disease may require a waiver.

(5) Class 4: Use of these medications necessitates grounding the aircrew member and is not waiverable for flight duty. Herbal Preparations/Supplements: The majority are prohibited for aviation duty as many are used in cases of self-diagnosis and self-treatment. In many cases, studies do not reveal significant clinical efficacy. Some preparations may be used under the guidance of the FS/APA.

b. Herbals and Dietary Supplements: The short-term effects of some of these preparations are dangerous and use can result in sudden incapacitation in flight. Any herbal and dietary supplements being used will be entered on the FDME/FDHS. Herbal and dietary supplements are designated as class 1, 2, or 3.

(1) Class 1: May use without approval of a FS/APA.

- Single multivitamin/mineral tablet per day.
- Vitamin C, E, B6, B12 (oral).
- Calcium
- Folate
- Protein supplementation to include shakes, capsules, and nutritional bars, but they may only contain additives specifically approved as class 1.

(2) Class 2: Individual aircrew may use the following supplements with prior approval of the FS/APA. Any use, whether periodic or regular, or as part of beverages or other supplement combinations must be reported on the annual FDME/FDHS.

- Vitamin A, K, D, Niacin, Riboflavin, Thiamine
- Magnesium, Zinc, Chromium, Selenium, Copper
- Glucosamine with or without Chrondroitin
- Echinacea for short term (less than two weeks) use
- Saw Palmetto
- Creatine
- Ginseng – this preparation is prohibited 24 hours before flight

(3) Class 3: All other preparations not specifically listed are disqualifying for flight duties. Waivers, while unlikely, can be applied for.

NOTE: **Note:** Conduct a check on learning and summarize the learning activity.

CHECK ON LEARNING: Conduct a check on learning and summarize the ELO.

SECTION IV. SUMMARY

Method of Instruction: Conference / Discussion
Instructor to Student Ratio is: 1:50
Time of Instruction: 5 mins
Media: Large Group Instruction

Check on Learning

QUESTION: What are the organizations maintaining aviation medical standards?

ANSWER: AAMA, US Safety Center, USAARL, USASAM.

QUESTION: Who consists of the Aviation Medicine Health Care Team?

ANSWER: Flight Surgeon, Aeromedical Physician Assistant, and Aeromedical Psychologist

QUESTION: What is the primary goal of the Aviation Medicine Program?

ANSWER: Preventive Medicine.

QUESTION: What is the timeframe a FDME or FDHS must be started and completed?

ANSWER: Within a three month period preceding the end of the birth month.

QUESTION: Who has the final approval authority of a DA 4186?

ANSWER: The unit commander.

QUESTION: What is the difference of a temporary vs permanent medical disqualification?

ANSWER: Temporary, result in requalification within 365 days.
Permenant, not likely to result in requalification within 365 days.

QUESTION: What is the timeframe an aviator or aircrewmember can not fly or perform a low pressure chamber run after SCUBA diving?

ANSWER: 24 hours.

QUESTION: What herbal/dietary supplements can an aviator or aircrewmember take after being annotated on the FDME/FDHS without the prior approval of a FS/APA?

ANSWER:
a. Single multivitamin/mineral tablet per day.
b. Vitamin C, E, B6, B12 (oral).
c. Calcium
d. Folate
e. Protein supplementation to include shakes, capsules, and nutrional bars.

Review / Summarize Lesson

A. Review Main Points.

1. Identify the organizations that provide a valuable service to maintaining aviation medical standards.
2. Identify the Aviation Medicine Health Care Team.
3. Determine the primary goal of the Aviation Medicine Program.
4. Identify the standards for comprehensive Flying Duty Medical Examination (FDME) to include the 5. Flying Duty Health Screen (FDHS) that is given to an aviator/air crewmember.
6. Identify the components of DA Form 4186.
7. Determine the difference between a temporary and permanent aeromedical disqualification.
8. Determine the timeframe an aircrewmember must not fly after exogenous factors.
9. Determine the herbal/dietary supplements that are allowed without prior approval of a FS/APA.

B. Closing Statement.

1. Solicit student questions and explanations.
2. Questions and answers.
3. Correct student misunderstandings.

SECTION V. STUDENT EVALUATION

Testing Requirements

NOTE: Describe how the student must demonstrate accomplishment of the TLO. Refer student to the Student Evaluation Plan.

a. Accomplishment of the TLO will be measured during the one hour exam.

b. Refer the student to the Student Evaluation Plan.

Feedback Requirements

NOTE: Feedback is essential to effective learning. Schedule and provide feedback on the evaluation and any information to help answer students' questions about the test. Provide remedial training as needed.

a. Schedule and provide feedback on the evaluation and any information to help answer students? questions about the exam.

b. Provide remedial training as needed.

c. Correct any misunderstandings.

Appendix A - Viewgraph Masters (N/A)

Appendix B - Test(s) and Test Solution(s) (N/A)

Appendix C - Practical Exercises and Solutions (N/A)

Appendix D - Student Handouts (N/A)